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Fax:	571.273.0826 703.872.9306	**Pages:**	04 (Including cover sheet)
Phone:	571.272.0826	**Date:**	April 20, 2005
Re:	Serial No. 09/929,513	**cc:**	

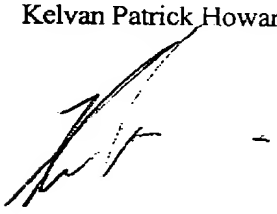
☐ Urgent ☐ For Review ☐ Please Comment ☐ Please Reply ☐ Please Recycle

•Comments:

Per the voicemail I left for you on April 20, 2005, Please note the following Advisory Action response. I will call you on April 21, 2005 to discuss and clarify.

Thank you,

Kelvan Patrick Howard



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By_____
Kelvan Patrick Howard, 48,999

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PATENT
Docket No.: -23US

Docket No. 002300US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Vivian F. Liu et al.

Application No.: 09/929,513

Filed: August 13, 2001

For: **METHOD FOR ANALYZING CELLULAR EVENTS**

Examiner: Nelson Yang

Art Unit: 1641

RESPONSE TO ADVISORY ACTION
MAILED
FEBRUARY 08, 2005

Assistant Commissioner for Patents
Alexandria, VA 22313-1450

Examiner Yang:

In response to the Advisory Action mailed 02/08/05, the applicant respectfully submits the following remarks and requests reconsideration of the above-identified application.

The Examiner noted that: "Continuation of 11. does NOT place the application in condition for allowance because: applicant's arguments were not found persuasive. Applicant argues that the prior art cited in the rejection teaches only molecular events and not cellular events. Specifically, applicant argues that the binding of proteins and cells would not constitute a cellular event. The Examiner does not necessarily agree with this argument, as applicant has defined "cellular event" as reactions and structural rearrangements occurring as a result of the activity of a living cell...as well as all other functions of living cells [0006.4]. Binding between proteins and the cell would be included in this definition. However, should applicant's arguments that binding between proteins and cells be accepted, the claims as currently recited would still read upon the prior art. Specifically, Hefti et al do teach screening based on biological function, in order to identify molecules which affect some type of biological activity of function (column 50, lines 26-30). Hefti et al further teach that an embodiment compromising as assay where a detectable binding complex is only formed if a test ligand is able to bind to a receptor in a cell and trigger the expression of a reporter molecule which then binds to form the detectable binding complex (column 50, line 65-column 51, line 5)-thus while the binding aspect might not be a cellular event...the expression of the reporter molecule by the cell would be."

As applicant noted in the response mailed on 12.13.04, applicant is detecting a cellular event which occurs several steps downstream after a cascade of biological and physiological events initiated by the molecular event (or the binding of the protein and ligand (in the form of a cell)). The binding of proteins and cells is not a cellular event because it is not a "reaction" or "structural rearrangement occurring as a result of the activity of a living cell...". Whereas the binding of the protein and cell is a molecular event, the associated cellular event is a downstream consequence of the molecular event. This is what we have referred to as events "occurring as a **result** of the activity of a living cell..". This is perhaps better clarified in paragraph [0064] with the statement "Examples of cellular activity that can be triggered by an initial molecular interaction (on the surface or in the cytoplasm or nucleus of a cell) include GPCR-mediated pathway induction, ion-channel modulation, morphologic changes, apoptotic events, cytosolic camp/Ca ion events, membrane changes, and protein expression levels." Please note that these events listed as cellular activity are the same as those listed in paragraph [0006.4] as cellular events.

Hefti does teach screening based on biological function, in order to identify molecules which affect some type of biological activity or function (column 50, lines 26-30). The biological activity affected by the target molecules is molecular events. Hefti is screening for ligands that affect the binding between a "protein target and another compound, such as binding between the protein target and another protein, a nucleic acid, or a cell." (column 50, lines 30-33). Hefti is also screening to identify ligands that disrupt binding between a particular target protein and a known nucleic acid that binds the target protein..." (column 50, lines 44-46). Hefti is screening to identify molecules which affect molecular events, as defined above and in the patent application. The biological activity affected by the target molecules is not a cellular event and cellular events are not mentioned in this area.

As noted by the Examiner, Hefti does teach an embodiment comprising an assay where a detectable binding complex is only formed if a test ligand is able to bind to a receptor in a cell and trigger the expression of a reporter molecule which then binds to form the detectable binding complex (column 50, line 65-column 51, line 5), but the applicant respectfully disagrees that the expression of the reporter molecule by the cell would be a cellular event, again as evidenced by applicant's paragraph [0064] with the statement "Examples of cellular activity that can be triggered by an initial molecular interaction (on the surface or in the cytoplasm or nucleus of a cell) include GPCR-mediated pathway induction, ion-channel modulation, morphologic changes, apoptotic events, cytosolic camp/Ca ion events, membrane changes, and protein expression levels." (Again, please note that these events listed as cellular activity are the same as those listed in paragraph [0006.4] as cellular events.) Hefti is discussing the binding of a reporter molecule to a ligand. Even though this event is occurring within the cell cytoplasm, as the quote above notes, it still refers to a molecular interaction or molecular event. Hefti is detecting the initial molecular event (the reporter molecule binding with the ligand). We are

claiming the detection of larger scale cellular event resulting downstream in the cascade of physiological events from the molecular event that Hefti is examining.

In view of the remarks set out above, it is submitted that this application is now ready for allowance.

If Examiner Yang believes that prosecution of this application would be expedited by a discussion of any issue, he is invited to telephone the undersigned at any of the numbers set out below.

Respectfully submitted,

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